

## **WQB "Wide Aperture Quad" for Main Injector**

28 April 2005, 9:00 AM

IB2 conference room

Attendees: Leon Bartelson, Bruce Brown, Weiren Chou, Jim Fitzgerald, TJ Gardner, Camille Ginsburg, Hank Glass, Dave Harding, Jim Jablonski, Vladimir Kashikhin, Ioanis Kourbanis, Linda Valerio, John Zweibohmer

### **Beam Position Monitors**

Jim Fitzgerald reported that the BPM drawings are in AD/MS drafting and are expected to be ready for release in a few days. After some discussion it was concluded that the inner diameter needed to be changed to match the ID of the large axis of the beam tubes. AD/Instrumentation would like to put the pickups at the top, bottom, left, and right rather than at the corners, where the standard Main Injector BPM's have them. This reduces the complexity of the electronics, especially since both horizontal and vertical signals are requested at these locations. Jim still needs to check that the linearity remains adequate in that geometry.

The goal is to be ready to install one magnet if the opportunity arises. To do that we need one magnet, one BPM, and one trim power supply. The current target for readiness is June 23. The primary destination is location 608, but if the radiation level there is too high for comfortable working without a long cool down period, location 620 will be considered.

### **Power supplies**

Leon reported that there is some cable on hand and at least one power supply, so the target date has been met. Leon is eager to measure the inductance of the trim coil on a real magnet as soon as the first one is available.

TD will mount a standard junction box with a terminal block inside as the termination for the trim coil. Leon will give Jim Jablonski a sample of each.

### **Design**

The interface drawing is ready to be released, but hasn't been signed off. A draft was given to Linda Valerio. The details of the manifolding remain to be worked out, as well as the alignment blocks.

### **Beam tubes**

All the tubes are here and pass inspection, including permeability. In fact, we have one extra beyond the number we ordered, which Dave agreed to buy. (The original order included three extra.)

The swaging experiment on a 4Q120 beam tube was successful. Everyone admired the sample. One of the two beam tube checking fixtures will be modified to work on the production tubes. The only issue is being sure that we can slip the pole tip inserts into place with the beam tube swaged and installed.

### **Fabrication**

The first pair of coils is in the potting mold. Potting is planned for early next week. All four cores for the first magnet have been stacked and welded.

**Measurement and refinement plan**

The probe support is 80% finished. The exact beam tube inner dimensions are needed. The appropriate referral was made. The plan is to do a full length integral at multiple x-y positions and on-axis measurements as a function of z.

**Next meeting in two weeks: Thursday, 12 May 2005. 9:00 AM, IB2 Conference Room**